

IN THE CLAIMS:

1 1. (CURRENTLY AMENDED) A method for managing a construction project compris-
2 ing;

3 generating, by one or more central processor units (CPUs) executing an applica-
4 tion, a computerized simulation model for the construction project representing project
5 materials in the construction project;

6 mapping the project materials represented in the computerized simulation model
7 into constructible elements;

8 displaying the constructible elements as three-dimensional objects in a graphical
9 user interface;

10 determining at least one work step for each constructible element;

11 receiving a selection in the graphical user interface of at least one constructible
12 element represented as a three-dimensional object to create a work package in the com-
13 puterized simulation model, the work package comprising the at least one constructible
14 element and the at least one work step for the at least one constructible element; and

15 receiving a selection in the graphical user interface of a visual display of the work
16 package and an indication of a sequencing to apply to the work package with respect to a
17 plurality of other work packages, which each comprise at least one constructible element
18 and at least one work step for release to work crews.

1 2. (ORIGINAL) The method of claim 1, further comprising organizing the constructible
2 elements into construction areas in the computerized simulation model.

1 3. (ORIGINAL) The method of claim 1, further comprising organizing the constructible
2 elements into construction crafts in the computerized simulation model.

- 1 4. (ORIGINAL) The method of claim 1, further comprising organizing the constructible
2 elements into systems for testing and turnover in the computerized simulation model.
- 1 5. (ORIGINAL) The method of claim 1, further comprising prioritizing procurement of
2 the constructible elements based on target installation dates of the constructible elements.
- 1 6. (ORIGINAL) The method of claim 1, further comprising generating a visual display of
2 the computerized simulation model.
- 1 7. (ORIGINAL) The method of claim 1, further comprising generating an interactive
2 three-dimensional graphical display of the computerized simulation model.
- 1 8. (CURRENTLY AMENDED) The method of claim 1, wherein receiving a selection in
2 the graphical user interface of the at least one constructible element further comprises
3 allowing a user to point-and-click on the at least one constructible element ~~in a visual~~
4 ~~display of the computerized simulation model~~ to select the at least one constructible ele-
5 ment.
- 1 9. (ORIGINAL) The method of claim 8, further comprising providing status information
2 for the work package during creation of the work package.
- 1 10. (CURRENTLY AMENDED) The method of claim 9, wherein providing status in-
2 formation further comprises displaying ~~in a visual display of the computerized simulation~~
3 ~~model~~ work that has been completed on the construction project.

1 11. (CURRENTLY AMENDED) The method of claim 9, wherein providing status in-
2 formation further comprises displaying ~~in a visual display of the computerized simulation~~
3 ~~model~~-a time estimate for the work package.

1 12. (CURRENTLY AMENDED) The method of claim 9, wherein providing status in-
2 formation further comprises displaying ~~in a visual display of the computerized simulation~~
3 ~~model~~-a cost estimate for the work package.

1 13. (ORIGINAL) The method of claim 1, wherein the computerized simulation model is
2 an interactive three-dimensional computerized simulation model.

1 14. (CANCELLED)

1 15. (CURRENTLY AMENDED) The method of claim 1, further comprising assigning
2 the work package to a work crew in response to receiving a selection of the work package
3 ~~in a visual display of the computerized simulation model~~ via a the graphical user inter-
4 face.

1 16. (ORIGINAL) The method of claim 1, further comprising: accessing engineering data
2 for the construction project in a database, wherein generating a computerized simulation
3 model is based on the engineering data; and accessing manufacturing data for the con-
4 struction project in an other database, wherein mapping the project materials into con-
5 structible elements is based on the manufacturing data.

1 17. (CURRENTLY AMENDED) A system for managing a construction project compris-
2 ing:

3 a central processor unit (CPU); and
4 a memory electronically coupled to the CPU, the memory including an applica-
5 tion for execution by the CPU, the application comprising
6 a project design module configured to generate a computerized
7 simulation model of the construction project representing project materials
8 in the construction project,
9 a mapping module configured to map the project materials repre-
10 sented in the computerized simulation model into constructible elements,
11 a graphical user interface configured to display the constructible
12 elements as three-dimensional objects;
13 a task detailing module configured to determine at least one work
14 step for each constructible element,
15 a work packaging module configured to create a work package in
16 the computerized simulation model, the work package comprising at least
17 one constructible element selected in the graphical user interface and the
18 at least one work step for the at least one constructible element, and
19 a sequencing module configured to receive a selection of a visual
20 display of the work package and an indication of a sequencing to apply to
21 the work package with respect to sequence a plurality of other work pack-
22 ages, which each comprise at least one constructible element and at least
23 one work step for release to work crews.

1 18. (ORIGINAL) The system of claim 17, wherein the project design model comprises a
2 craft organization module configured to organize the constructible elements into con-
3 struction crafts in the computerized simulation model.

1 19. (ORIGINAL) The system of claim 17, wherein the project design model comprises a
2 construction area organization module configured to organize the constructible elements
3 into construction areas in the computerized simulation model.

1 20. (ORIGINAL) The system of claim 17, wherein the project design model comprises a
2 system organization module configured to organize the constructible elements into sys-
3 tems for testing and turnover in the computerized simulation model.

1 21. (CURRENTLY AMENDED) The system of claim 17, wherein the graphical user in-
2 terface is further configured to allow a user to point-and-click on the at least one con-
3 structible element ~~in a visual display of the computerized simulation model~~ to select the
4 at least one constructible element for the work package.

1 22. (CURRENTLY AMENDED) The system of claim 17, wherein the work packaging
2 module is further configured to allow a user to point-and-click on the at least one con-
3 structible element ~~in a visual display of the computerized simulation model~~ to select the
4 at least one constructible element for the work package.

1 23. (CURRENTLY AMENDED) The system of claim 22, wherein the application further
2 comprises a status module configured to provide status information for the construction
3 project ~~in a visual display of the computerized simulation model~~ during creation of the
4 work package.

1 24. (ORIGINAL) The system of claim 23, wherein the status information comprises a
2 time estimate for the work package.

1 25. (ORIGINAL) The system of claim 23, wherein the status information comprises a
2 cost estimate for the work package.

1 26. (PREVIOUSLY PRESENTED) The system of claim 17, wherein the application is
2 configured to generate a visual display of the computerized simulation model.

1 27. (PREVIOUSLY PRESENTED) The system of claim 17, wherein the application is
2 configured to generate an interactive three-dimensional graphical display of the comput-
3 erized simulation model.

1 28. (ORIGINAL) The system of claim 17, wherein the computerized simulation model is
2 an interactive three-dimensional computerized simulation model.

1 29. (PREVIOUSLY PRESENTED) The system of claim 17, wherein the sequencing
2 module is further configured to assign a plurality of work packages to work crews.

1 30. (ORIGINAL) The system of claim 29, wherein the work packaging module further
2 comprises a reprioritization module configured to reprioritize the sequence of the work
3 packages.

1 31. (ORIGINAL) The system of claim 17, wherein the work packaging module further
2 comprises a constraints analysis module configured to determine whether the work pack-
3 age is valid.

32. (ORIGINAL) The system of claim 17, wherein the work packaging module further comprises a verification module configured to analyze resource constraints for the construction project to determine whether a work crew can execute the work package subject to the constraints.

33. (PREVIOUSLY PRESENTED) The system of claim 17, wherein the work packaging module further comprises a converter module configured to convert data accessed from an external database into a common format for use in a matching module.

34. (CURRENTLY AMENDED) A computer readable medium storing computer program code for managing a construction project, the computer program code when executed to:

generate a computerized simulation model of the construction project, the computerized simulation model representing project materials in the construction project;

map the project materials represented in the computerized simulation model into constructible elements;

display the constructible elements as three-dimensional objects in a graphical user interface;

determine at least one work step for each constructible element;

receive a selection in the graphical user interface of at least one constructible element to create a work package in the computerized simulation model, the work package comprising the at least one constructible element and the work steps for the at least one constructible element; and

receiving a selection in the graphical user interface of a visual display of the work package and an indication of a sequencing to apply to the work package with respect to sequence-a plurality of other work packages, which each comprise at least one constructible element and at least one work step for release to work crews.

1 35. (PREVIOUSLY PRESENTED) The computer readable medium of claim 34, further
2 comprising computer program code to generate a visual display of the computerized
3 simulation model.

1 36. (PREVIOUSLY PRESENTED) The computer readable medium of claim 34, further
2 comprising computer program code to generate an interactive three-dimensional graphical
3 display of the computerized simulation model.

1 37. (PREVIOUSLY PRESENTED) The computer readable medium of claim 34, wherein
2 the computerized simulation model is an interactive three-dimensional computerized
3 simulation model.

1 38. (CURRENTLY AMENDED) The computer readable medium of claim 34, further
2 comprising computer program code to allow a user to point-and-click on the at least one
3 constructible element in a visual display of the computerized simulation model to select
4 the at least one constructible element.

1 39. (CURRENTLY AMENDED) A system for managing a construction project comprising:
2

3 a central processor unit (CPU);

4 means for generating a computerized simulation model of a construction project,
5 the computerized simulation model representing project materials in the construction project;
6

7 means for mapping the project materials represented in the computerized simulation
8 model into at least one constructible element;

9 means for displaying the constructible elements as three-dimensional objects in a
10 graphical user interface;

11 means for determining at least one work step for each constructible element;

12 means for creating a work package in the computerized simulation model, the
13 work package comprising the at least one constructible element selected in the graphical
14 user interface and the work steps for the at least one constructible element; and

15 means for receiving a selection in the graphical user interface of a visual display
16 of the work package and an indication of a sequencing to apply to the work package with
17 respect to a plurality of other work packages, which each comprise at least one construct-
18 ible element and at least one work step ~~for release to work crews.~~

1 40. (ORIGINAL) The system recited in claim 39, further comprising: means for generat-
2 ing a visual display of the computerized simulation model.